Factors Related withHIV Testing among Pregnant Women in Public Health Center: a Study in Yogyakarta, Indonesia

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Abstract— Prevalence of HIV among reproductive women is rapidly increasing in Indonesia, included Yogyakarta. In fact, preventing mother to child HIV transmission is important. HIV testing and counselling is the critical entry point for treatment, care and support service. This study is aimed to investigate the proportion of pregnant women who have taken HIV test and the related factors of HIV testing behavior, such as education level, the level of HIV-AIDS symptoms knowledge, HIV testing knowledge, provider initiated testing and counselling (PITC) and availability of HIV testing service. The study was a cross sectional survey of 100 pregnant women from five antenatal clinics of Puskesmas in Yogyakarta around June and October 2014. The data was collected by questionnaires. The questionnaires validity and reliability have been tested as well. It was analysed by univariate, bivariate by chi square and multivariate by logistic regression. As the result, the prevalence of HIV testing was 24%. The educational level of the respondents were dominantly senior high school graduates (56%), the respondent who have good of HIV-AIDS symptoms knowledge level was 62% and they have good knowledge level of HIV testing service was 62%, the respondent who got PITC was 33%, and 30% respondent had done antenatal care on Puskesmas without HIV testing service. There are no relation between the level of HIV/AIDS symptoms knowledge, the level of HIV testing knowledge with HIV testing behavior (p=0.671, p=0.165). The relation between educational level, PITC and HIV testing services with HIV testing (p=0.031, p=0.000, p=0.032). PITC and HIV testing services was associated with HIV testing behavior (OR= 131.346, 95% CI 18.839-915.770, OR=7.901 95% CI 1.099-56.784). As the recommendation, the goverment should provide HIV testing service, and PITC had to be done for all the pregnant women in health care centers in Yogyakarta.

Keywords— Knowledge; PITC; HIV testing service

I. INTRODUCTION

Prevalence of HIV among reproductive women is rapidly increasing in Indonesia, included Yogyakarta. The percentage of HIV transmission risk from mother to child in a developing country or a poor country with limited access services up to 25%-45%. Indonesia as a developing country, HIV cases are still high and increasing every year. Data from Indonesian Ministry of Health in December 2013 theaccumulation of HIV cases in Indonesia from April 1987 up to December 2013 recorded 127.416 and 29.037 cases detected in 2013. The majority of the existing accumulation in the age range 20-29 years old. In 2012, Indonesian Ministry of health recorded that 43,642 pregnant women were tested for HIV, as many as 1,329 (3.01%) pregnant woment with HIV positiveand estimated in 2016 up to 0.49%. Based on that fact, preventing mother to child HIV transmission (PMTCT) is very important[1,2].

WHO have a strategy to prevent HIV transmission from mother to child. That strategy called PMTCT consist of:(1) strengthening HIV primary prevention measures to ensure that women of reproductive age and their partners avoid HIV infection; (2) providing contraception and counseling in order to achieve the objectives/ scope of family planning among women living with HIV; (3) provide HIV testing, counseling and antiretroviral drugs at the right time for pregnant women to prevent transmission of HIV to their children, and (4) ensure that the care, treatment and support for women withHIV, children and families have been given correctly and on time[1].

According to the UNAIDS (United Nations Programme on HIV-AIDS) strategy in 2009 mentioned that one of the important effort in the prevention program of HIV transmission from mother to child is HIV testing for all of the pregnant women.Initiative of health care workers and counseling services/ clinics antenatal and delivery, and other health services for pregnant women to do HIV testing is important strategy to increased coverage of HIV testing among pregnant women[1].

HIV testing and counseling is the critical entry-point for engagement the pregnant womeninto treatment and care as well as for primary and secondary prevention efforts. HIV testing is a 'critical gateway' to treatment, care and support services[3,4].

Public heath centeror in Indonesia called Pusat Kesehatan Masyarakat (Puskesmas) as one unit of basic services of health center in Indonesia. Public Health Center have a antenatal clinics service as a major project of prevention program of HIV transmission from mother to child (PMTCT). But, PMTCT program did not conducted as expectation, and the same situation also occur in all Public Health Center in Yogyakarta. The other significant problem is, not every Public Health Center in Yogyakarta has HIV testing service.

Lack of Knowledge about HIV-AIDS or about the advantages of HIV testing, and the place or facilities of HIV testing may caused pregnant women did not take HIV testing. The percentage of good knowledge of HIV-AIDS, espcecially about how this virus can be transmitted from mother to child during pregnancy, during childbirth and while breastfeeding are 38.1%, 39% and 37.4% respectively[1].

This study is aimed to investigate the proportion of pregnant women who have taken HIV test and the related factors of HIV testing behavior, such as education level, the level of HIV/AIDS symptoms knowledge, HIV testing knowledge, provider initiated testing and counselling (PITC) and availability of HIV testing service.

II. METHOD

This research is quantitative research. This research is analytic correlational study using survey methods. The approach used cross-sectional study. This research was conducted at the five public health care in Yogyakarta by random sampling between June and October 2014. The target population in this study was all pregnant women on antenatal clinic at Puskesmas in Yogyakarta. Affordable population in this study is pregnant women who come to visit to Puskesmas Tegalrejo Yogyakarta, Mlati II Sleman Regency, Sewon Bantul Regency, Karang Mojo Gunungkidul Regency, and Galur Kulon Progo Regency. Previous studies have demonstrated proportion of HIV testing behavior of pregnant women in Indonesia was 10% . Absolute precision requirement was 0,05.Respondent in this study 100pregnant women (minimum sample size was 84 pregnant women). Sampling technique used cluster sampling where taking one public health center for each regencyto be a place of study, while the amount of respondents using proportional sampling.

Data collection in this study used a questionnaire that developed by reseacher. The questionnaire about HIV symptoms and HIV testing knowledge had previously tested the validity and reliability as well.There are three item not valid ($r<0.361$) and it was excluded from the questionnaire. The result of reliability test $\alpha>0,7$.

The process of data collection was conducted in every antenatal day in each Puskesmas and pregnant women were given an explanation of the research procedure and asked to fill out a questionnaire with a time of 60 minutes. Data analysis used univariate, bivariate with chi square analysis and multivariate with logistic regression analysis.

III. RESULT

As the result Table 1 showed that the prevalence of HIV testing was 24% or 76% of pregnant wowen don'tknow their HIV status. For the caracteristic table 1 showed that the majority respondent were 20-29 years old (53%) and pregnant with multigravida (57%). More than a half of respondents' educational level was senior high school graduates or 56%.

The respondents who have good knowledge (score of knowledge $\geq$ mean) about HIV-AIDS symptoms and HIV testing level were 62%, or we may conclude that that the majority of the respondents have enough knowledge about HIV symptoms and about HIV testing. The respondents who got PITC were 33%. There were 30% respondent had takenantenatal care on Puskesmas without HIV testing service or unavailability of HIV testing service.

TABLE 1: UNIVARIATE ANALYSISOF FACTORS RELATEDWITH HIV TESTING AMONG PREGNANT WOMEN

Variabel		Frequency	Percent
Age	≤ 19	4	4.0
	20-29	53	53.0
	30-39	42	42.0
	≥ 40	1	1.0
	Total	100	100.0
Gravida	Primigravida	43	43.0
	Multigravida	57	57.0
	Total	100	100.0
Education level	Primary	25	25.0
	Secondary	56	56.0
	Tertiary	19	19.0
	Total	100	100.0
Knowledge of HIV symptoms	Good	62	62.0
	Poor	38	38.0
	Total	100	100.0
Knowledge of HIV testing	Good	62	62.0
	Poor	38	38.0
	Total	100	100.0
PITC	Yes	33	33.0
	No	67	67.0
	Total	100	100.0
HIV testing service	Yes	70	70.0
	No	30	30.0
	Total	100	100.0
HIV testing behavior	Yes	24	24.0
	No	76	76.0
	Total	100	100.0

This study foundthat there are factors relatedto HIV testing behavior among pregnant women (table 2) such as education level ($p=0.031$), PITC ($p=0.000$) and HIV testing services ($p=0.032$).Table 3 showed that PITC is the significant factor

that influenced HIV(OR= 131.346, 95% CI 18.839-915.770). HIV testing services was also associated with HIV testing behavior (OR=7.901 95% CI 1.099-56.784).

TABLE 2: BIVARIATE ANALYSISOF FACTORS RELATEDWITH HIV TESTING AMONG PREGNANT WOMEN

Variabel		HIV testing behavior						p value
		Yes		No		Total		
		f	%	f	%	f	%	
Age	≤ 19	1	25	3	75	4	100	0.066
	20-29	17	32.1	36	67.9	53	100	
	30-39	6	14.9	36	85.7	42	100	
	≥ 40	0	0	1	100	1	100	
	Total	24	24	76	76	100	100	
Gravida	Primigravida	15	34.9	28	65.1	43	100	0.027
	Multigravida	9	15.8	48	84.2	57	100	
	Total	24	24	76	76	100	100	
Education level	Primary	2	8	23	92	25	100	0.031
	Secondary	14	25	42	75	56	100	
	Tertiary	8	42.1	11	57.9	19	100	
	Total	24	24	76	76	100	100	
Knowledge of HIV symtoms	Good	14	22.6	48	77.4	62	100	0.671
	Poor	10	26.3	28	73.7	38	100	
	Total	24	24	76	76	100	100	
Knowledge of HIV testing	Good	12	19.4	50	80.6	62	100	0.165
	Poor	12	31.6	26	68.4	38	100	
	Total	24	24	76	76	100	100	
PITC	Yes	22	61.1	14	38.9	100	100	0.000
	No	2	3.1	62	96.9	100	100	
	Total	24	24	76	76	100	100	
HIV testing service	Yes	21	30	49	70	70	100	0.032
	No	3	10	27	90	30	100	
	Total	24	24	76	76	100	100	

TABLE 3: MULTIVARIATEANALYSISOF FACTORS RELATED WITHHIV TESTING AMONG PREGNANT WOMEN

Variabel	B	p value	exp (B)	95% CI for Exp B	
				Lower	Upper
HIV testing service	2.067	0.040	7.901	1.099	56.784
PITC	4.878	0.000	131.346	18.839	915.770

IV. DISCUSSION

Based on the results, the level of knowledge about HIV symptoms and HIV testing, more than a half (62%) respondent has a good knowledge. The target and concept of national action plans of PMTCT in Indonesia (2013-2017) is increasing public knowledge about HIV-AIDS. This study describes that majority of respondent have a good knowledge, it means that the respondent has known about HIV-AIDS symptoms, signs and transmission. The respondent also has known about HIV testing service, cost and place. Knowledge as one of predisposing factor that lead human to conduct a specific behavior, but in this case the respondent have a good knowledge but they did not take HIV testing. Only 24% respondents who had HIV testing. This number is under target of PMTCT program of Indonesian Ministry of Health thatHIV test of pregnant women in the concentrated epidemicDistrict/City was 35%, as like as Yogyakarta [1].

Respondent who have a good knowledge about HIV symptoms, only 22.6% respondent had HIV test.Similary, only 19.4% respondents who have a good knowledge about HIV testinghad HIV test. This number was lower than respondents who have poor knowledge about HIV symptoms and HIV testing. As like as of research by Rogers et al, statedthat 60% of respondents who have a good knowledge about HIV, only 57% who had HIV test [5].

Respondent who got PITC was 33%. From table 3 showedthat respondents who got PITC (61.1%) had HIV test. This number is higher than the group of respondents did not got PITC is only 3.1% who had HIV test. According to the theory of LW. Green, behavior is influenced by reinforcing factor. From table 3 showed that provider's initiative is the most important reinforcing factor related to HIV testing behavior. Public awareness, especially pregnant women to perform voluntary HIV testing is still very low. The possibility is high stigma of HIV that makes someone afraid to take a HIV test that requires the initiation of officers. The same point is based on research conducted by Ivers et al which mentioned that 85% of patients take HIV test after the initiation. Hensen et al also explain that the initiative from service providers can increased knowledgefor the mother understood the counseling pre and post counseling and increase the number of HIV test in pregnant women. The research of Salari revelaed that the importance of efforts to optimize the prevention of HIV vertical transmission (from mother to child), the HIV test is very important to conduct HIV tests for all pregnant women in their first visit to the health workers and they should provide an adequate explanation for pregnant women to do the test on their own willingness as volunteer. The initiative of providers is the most influential factors in HIV testing behavior of pregnant women in Yogyakarta [4,6,7, 8].

Table 1 showed aboutHIV testing service, the result showed that 70% of respondents came from public health center who have facilites or HIV test services.Table 2 showed that respondents from public health center who have HIV test facilities, only 30% doing HIV test compared to 10% of respondents from Puskesmas withoutfacilities of HIV test. As same as research by Karamagi et al that the most important implementation of PMTCT programis availability HIV testing services. According to the theory of Green, behavior is influenced by enabling factor and the facilites of HIV testing or avalaibality of HIV testing service is very important factor related to HIV testing behavior of pregnant women in Yogyakarta[6, 9].

V. CONCLUSION

This study suggested the important of PITC. The homework is how to increase knowledge of pregnant women in Yogyakarta, so they aware and would like take HIV testing. Besides, the government shall also provides the HIV testing centers to ease the accessibility.

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